

Digital Signage Player

Athlon X2 2.8GHz, SSD, POSReady7, HDMIx4

# DS-280H Series

## User's Manual

CONTEC CO.,LTD.

# Check Your Package

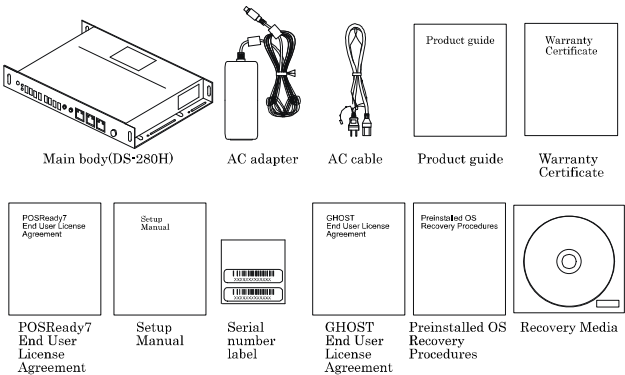
Thank you for purchasing the CONTEC product.  
The product consists of the items listed below.  
Check, with the following list, that your package is complete. If you discover damaged or missing items, contact your retailer.

## Product Configuration List

	DS-280H-DC6413
Name	Pcs.
The main body	1
AC adapter	1
AC cable *1	1
Product guide	1
Warranty Certificate	1
POSReady7 End User License Agreement	1
Setup Manual	1
Serial number label	1
GHOST End User License Agreement	1
Preinstall OS Recovery Procedures	1
Recovery Media	1

\*1 Do not use this AC power cable with any devices except for an attached AC adaptor.

## Product Configuration Image



\* See the Product Configuration List to check if all the components are included for the specified number of units.

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# 1. Introduction

## About the Product

This is STB for signage, working with AMD Athlon™ II 2.8G CPU and ATI Radeon™ E4690 GPU with enhanced graphics performance helps Full-HD movie to be played smoothly with 4 ports HDMI interface.

SSD can be installed as storage. The body is so compact and supports SATA interface which can transport data at high speed. It enables you to read high-quality movie, store so big data and transport data at high bit rate.

DS Series are the products assumed to be used at ordinary environment and market as "Digital Signage". Operating environment condition, supply period, maintenance period and other conditions are different from ones of our industrial products (IPC Series, BOX-PC, PT-Series and others). For details, please consult our retailer.

## Features

- Equipped with four-port HDMI display output (Supported 1080p)  
This product has four-port HDMI display output which supports 1080p. It makes it possible to display on quad monitors.
- High performance dual core CPU  
This product also has AMD Athlon II XLT V66C 2.8GHz (TDP45W). It supports applications which require high-speed processing.
- Dual configuration with discrete GPU and GPU which features integrated chipset  
This product is equipped with discrete GPU (Radeon E4690) and GPU (Radeon HD3200) which is integrated with AMD 780E chipset. They support advanced graphics processing
- Major types of peripherals are supported with rich interfaces  
It has a variety of extended interface such as HDMI x4, 1000BASE-T x1, USB2.0 x 4, serial (RS-232C) x2.  
So it can be used for various purposes.
- Pre-installed Windows Embedded POSReady 7  
The OS, Windows Embedded POSReady 7 which is perfect for digital signage use, is pre-installed. There are many functions on this product. Such as write filters (EWF: Enhanced Write Filter and FBWF: File-Based Write Filter) and Microsoft Office Viewer that is a file browser for Word, Excel and PowerPoint.
- Kinect for Windows Runtime (Pre-installed model)  
The installed OS is already equipped with a Runtime module which is required on OS side to trip Kinect for Windows sensor. You can use this product as an application controller which is equipped with NUI (Natural User Interface ) that features a control with voice or gestures.

## Supported OS

- Windows Embedded POSReady7

## Customer Support

CONTEC provides the following support services for you to use CONTEC products more efficiently and comfortably.

### Web Site

Japanese	<a href="http://www.contec.co.jp/">http://www.contec.co.jp/</a>
English	<a href="http://www.contec.com/">http://www.contec.com/</a>
Chinese	<a href="http://www.contec.com.cn/">http://www.contec.com.cn/</a>

### Latest product information

CONTEC provides up-to-date information on products.

CONTEC also provides product manuals and various technical documents in the PDF.

### Free download

You can download updated driver software and differential files as well as sample programs available in several languages.

### Note! For product information

Contact your retailer if you have any technical question about a CONTEC product or need its price, delivery time, or estimate information.

## Limited One-Year Warranty

CONTEC products are warranted by CONTEC CO., LTD. to be free from defects in material and workmanship for up to one year from the date of purchase by the original purchaser.

Repair will be free of charge only when this device is returned freight prepaid with a copy of the original invoice and a Return Merchandise Authorization to the distributor or the CONTEC group office, from which it was purchased.

This warranty is not applicable for scratches or normal wear, but only for the electronic circuitry and original products. The warranty is not applicable if the device has been tampered with or damaged through abuse, mistreatment, neglect, or unreasonable use, or if the original invoice is not included, in which case repairs will be considered beyond the warranty policy.

## How to Obtain Service

For replacement or repair, return the device freight prepaid, with a copy of the original invoice. Please obtain a Return Merchandise Authorization number (RMA) from the CONTEC group office where you purchased before returning any product.

\* No product will be accepted by CONTEC group without the RMA number.

## Liability




The obligation of the warrantor is solely to repair or replace the product. In no event will the warrantor be liable for any incidental or consequential damages due to such defect or consequences that arise from inexperienced usage, misuse, or malfunction of this device.

# Safety Precautions

Understand the following definitions and precautions to use the product safely.

## Safety Information

This document provides safety information using the following symbols to prevent accidents resulting in injury or death and the destruction of equipment and resources. Understand the meanings of these labels to operate the equipment safely.

 DANGER	DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.
 WARNING	WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
 CAUTION	CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury or in property damage.

## Caution on the DS-280H Series

### Handling Precautions

#### DANGER

- This product supports an attached AC adapter and AC cable only.

#### WARNING

- Always check that the power supply is turned off before connecting or disconnecting power cables and other cables.
- Users should not attempt to disassemble or modify this equipment, or to replace components. The manufacturer may not be able to provide service for equipment that has been modified by the user.
- This product is not intended for use in aerospace, space, nuclear power, medical equipment, or other applications that require a very high level of reliability. Do not use the product in such applications.
- If using this product in applications where safety is critical such as in railways, automotive, or disaster prevention or security systems, please contact your retailer.
- Do not attempt to replace the battery as inappropriate battery replacement poses a risk of explosion.
- For battery replacement, contact your retailer as it must be performed as a process of repair.
- When disposing of a used battery, follow the disposal procedures stipulated under the relevant laws and/or municipal ordinances.



## CAUTION

- Do not use or store this product in a location exposed to high or low temperature that exceeds range of specification or that is susceptible to rapid temperature changes.  
Example:                   - Exposure to direct sun   - In the vicinity of a heat source
  - Do not use this product in extremely humid or dusty locations. It is extremely dangerous to use this product when it is in contact with water or any other fluid or conductive dust. If this product must be used in a dusty environment, install it on a dust-proof control panel, for example.
  - Avoid using or storing this product in locations subject to shock or vibration that exceeds range of specification.
  - Do not use this product in the vicinity of devices that generate strong magnetic force or noise. Such products will cause this product to malfunction.
  - Do not use or store this product in the presence of chemicals.
  - To clean this product, wipe it gently with a soft cloth dampened with either water or mild detergent. Do not use chemicals or a volatile solvent, such as benzene or thinner, to prevent peeling or discoloration of the paint.
  - This product's case may become hot. To avoid being burned, do not touch the case while this product is in operation or immediately after turning off the power. Avoid installation in a location where people may come into contact with the case.
  - CONTEC does not provide any guarantee for the integrity of data on any recording media such as SSD.
  - Always remove the power cable from the power outlet before changing hardware configurations such as the connection of connectors, and/or the setting of jumpers and switches.
  - To prevent corruption of files, always shutdown the OS before turning off this product.
  - CONTEC reserves the right to refuse to service a product modified by the user.
  - In the event of failure or abnormality (unusual smells or excessive heat generation), unplug the power cord immediately and contact your retailer.
  - To connect with peripherals, use a grounded, shielded cable.
  - When transporting this equipment, be careful to protect it against direct vibration and physical shock.
  - You cannot clear the BIOS settings on CMOS of this product. The product must be repaired if it becomes unbootable after the change of BIOS settings.
  - Regarding "VCCI Class A Notice"  
The HDMI Cable must be used in the following so that this product may suit the above-mentioned standard.  
HDMI Cable: IPC-HDMI-015 (Options)
- 

### - Caution on the VCCI Class A

<p>この装置は、クラスA情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。</p>
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VCCI-A

## 2. System Reference

### Specification

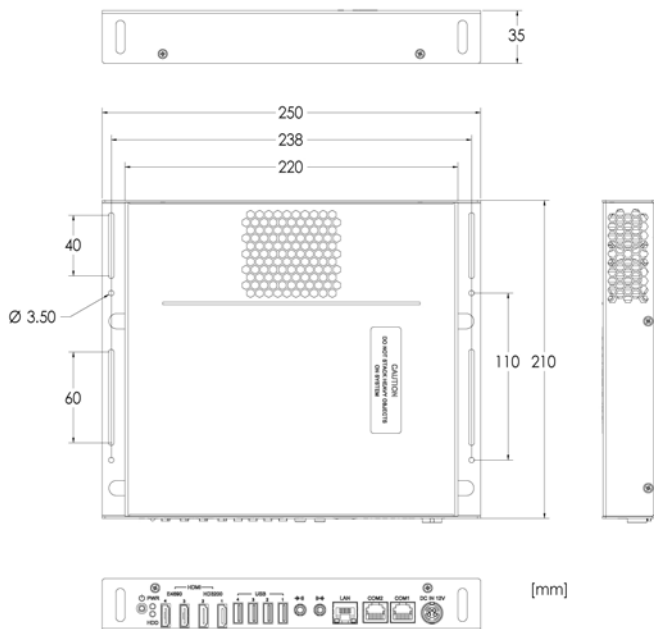
**Table 2.1. Functional Specification**

Model		DS-280H
CPU		AMD Athlon™II 2.8GHz
Chipset		AMD 780E + SB710 Chipset
BIOS		Manufactured by Award
Memory		2GB, DDR2
GPU*1	Port 1,2	Integrated: AMD HD3200 Graphics Core w/ side-port 128MB GDDR3 memory -DirectXR10 & OpenGL 2.0 capable -UVD2.0 video & display engines for HD, Blu-ray & 3D
	Port 3,4	Discrete: AMD E4690 GPU (320 Cores @ 600MHz; 31W) w/ 512MB GDDR3 memory (128-bit wide) -DirectXR10.1, Shader 4.1, OpenGL 3.0 capable -UVD2.0 video & display engines for HD, Blu-ray & 3D
Interface		
Display		4port (HDMI connector x 1)
Audio		Line-out x 1, 3.5 φ Stereo mini jack Line-in x 1, 3.5 φ Stereo mini jack
Serial ATA		1-slot, 2.5inch SATA SSD, 16GB (SLC)
LAN		1port (RJ-45 Connector) Realtek RTL8111C PCI-E Gigabit LAN Controller
USB		4ports (TYPE-A Connector x 4) USB 2.0-compliant
RS-232C		2port (RJ-50 Connector), RI (Ring Indicator) none
Power Supply (AC adapter specification)		This product supports an attached AC adapter and AC cable ONLY.
Input voltage		100V-240VAC, 50-60Hz
Input current		2A
Rated output voltage		12VDC
Rated output current		12.5A(Max.)
Longevity*2		30,000H (temperature 25 °C FullHD movie playing)
		8,700H (temperature 40 °C FullHD movie playing)
Physical dimensions (mm)		250(W) x 210(D) x 35(H) (No protrusions)
Weight		About 2.1kg
Operating temperature		0 - 40 °C
Storage temperature		-10 - 60 °C
Humidity		10 - 90%RH (No condensation)
Floating dust particles		Not to be excessive
Corrosive gases		None

\*1: Clone display between port 1, 2 (HD3200) and port 3, 4 (E4690) is not available.

\*2: This product are designed to use under the good condition.

## Physical Dimensions



### Figure 2.1. Physical Dimensions

## 3. Hardware Setup

- Before you start, be sure that the power is turned off.

### Before Using the Product for the First Time

Follow the next steps to set up this product:

- STEP1 By referring to the information in this chapter, install, connect and set this product.
- STEP2 Connect cables.  
Connect the cable of necessary external devices, such as keyboard and a display, to this product using appropriate cables.
- STEP3 Turn on the power.  
Check if STEP1-2 were correctly done, again.  
Check that AC plug is not connected, then insert DC jack of AC adapter into the product.  
Insert AC plug into AC inlet. The product will wake up.  
If you feel any abnormality after connection, pull out AC plug quickly, and then check if all installation was correctly done.  
\*.This product supports an attached AC adapter and AC cable ONLY.
- STEP4 Set up BIOS.  
By referring to Chapter 5, set up BIOS. This setup requires a keyboard and a display.  
\* Before using this product, be sure to execute "LOAD SETUP DEFAULTS" to initialize the BIOS settings to their default values.  
(See Chapter 5, "Main Menu.")



#### CAUTION

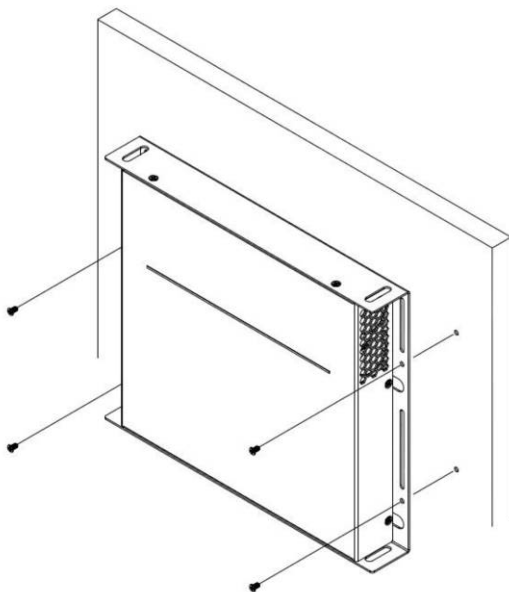
Be sure to connect the keyboard and mouse to it before turning the power on for the first time.

---

## Hardware Setup

- Before you start, be sure that the power is turned off.

### Installation Requirements



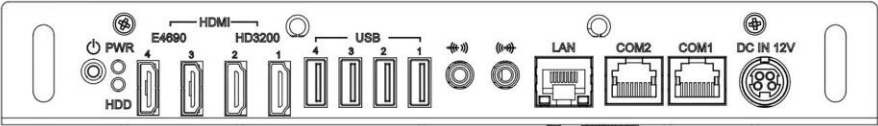
**Figure 3.1. Installation Requirements**

You can install this product on plastic (LCD monitor), wood, drywall surface over studs, or a solid concrete or metal plane directly. Ensure the installer uses four M3 length 8mm screws to secure the system on wall.

Fasteners are not included with the unit, and must be supplied by the installer. The types of fasteners required are dependent on the type of wall construction.

# 4. Each Component Function

## Component Name



**Figure 4.1. Component Name**

**Table 4.1. Component Function**

Name	Function
DC-IN	This product supports an attached AC adapter and AC cable ONLY. Check that AC plug is not connected, then insert DC jack of AC adapter into the product. Insert AC plug into AC inlet. The product will wake up.
POWER-SW	Power switch
POWER LED	Power ON display LED
ACCESS LED	Disk access display LED
HDMI(E4690/HD3200)	Display(HDMI x4)
USB	USB port connector x2
LINE IN	Line in (3.5φ PHONE JACK)
LINE OUT	Line out (3.5φ PHONE JACK)
LAN	Ethernet 1000BASE-T/100BASE-TX/10BASE-T RJ-45 connector
COM1 / COM2	Serial port RJ-45 connector x2

# Component Function

## DC Power Input Connector: DC-IN

This product supports an attached AC adapter and AC cable only.

## POWER SW: POWER-SW

POWER SW is provided.

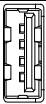
## Display Interface: HDMI

This product can be connected with HDMI input external device.  
We connect the HDMI input terminal of the video equipment and the external HDMI output terminal of this unit HDMI cable. You can connect HDMI output terminal of this product and HDMI input terminal of external video equipment with HDMI cable.

## USB Ports

This product is equipped USB 2.0 interface.

Table 4.2. USB Connector

	
Pin No.	Signal name
1	USB_VCC
2	USB-
3	USB+
4	USB_GND

## Line in Interface: LINE IN

A line in connector is provided. You can plug a microphone to this connector for sound input.

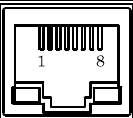
## Line out Interface: LINE OUT

A line output connector is provided. You can plug a headphone or amplifier-integrated speakers into this connector.

# Giga bit-Ethernet: LAN A – B

Connector for Giga bit-Ethernet Interface is provided.

**Table 4.3. Giga bit-Ethernet Connector**

Connector type	RJ-45	
		
Pin No.	Signal name	
	100BASE-T	1000BASE-T
1	TX+	TRD+(0)
2	TX-	TRD-(0)
3	RX+	TRD+(1)
4	N.C.	TRD+(2)
5	N.C.	TRD-(2)
6	RX-	TRD-(1)
7	N.C.	TRD+(3)
8	N.C.	TRD-(3)

LEDs for display of network statuses:

Right LED: Link LED

Opertion: Green Blinking

Left LED: Operation LED


10M, 100M: Green, 1000M: Orange




## Serial Port Interface : SERIAL COM1/COM2

Connector for Serial Port Interface is provided.

**Table 4.4. Serial Port Interface**

Connector type		RJ-45
		
Pin No.	Signal name	
1	RTS	Request to send
2	DTR	Data terminal ready
3	TXD	Transmit data
4	GND	ground
5	DCD	Data carrier detect
6	RXD	Receive data
7	DSR	Data set ready
8	CTS	Clear to send

---

 **CAUTION** Do not Insert LAN Cable into Serial Port.  
This product may malfunction or cause a failure.

---

# 5. BIOS Setup

## Introduction

This chapter discusses Award's Setup program built into the product. The Setup program allows users to modify the basic system configuration.

## Starting Setup

The Award BIOS is immediately activated when you first power on the computer.

By pressing <DEL> immediately after switching the system on, or

If the message disappears before you respond and you still wish to enter Setup, restart the system to try again by turning it OFF then ON. You may also restart by simultaneously pressing <Ctrl>, <Alt>, and <Delete> keys.

## Using Setup

In general, you use the arrow keys to highlight items, press <Enter> to select, use the F5 and F6 keys to change entries, press <F1> for help and press <Esc> to quit. The following table provides more detail about how to navigate in the Setup program using the keyboard.

**Table 5.1. Using Setup**

Key	Function
<b>Up Arrow</b>	Move to the previous item
<b>Down Arrow</b>	Move to the next item
<b>Left Arrow</b>	Move to the item on the left
<b>Right Arrow</b>	Move to the item on the right
<b>Enter</b>	Move to the item you desired
<b>PgUp</b>	Increase the numeric value or make changes
<b>PgDn</b>	Decrease the numeric value or make changes
<b>F1 key</b>	General help on Setup navigation keys
<b>F5 key</b>	Load previous values from CMOS
<b>F7 key</b>	Load the optimized defaults
<b>F10 key</b>	Save all the CMOS changes and exit
<b>Esc</b>	Main Menu : Quit without saving changes Submenus : Exit Current page to the next higher level menu

## Getting Help

Press F1 to pop up a small help window that describes the appropriate keys to use and the possible selections for the highlighted item. To exit the Help Window press <Enter> key.

### **In Case of Problems**

If, after making and saving system changes with Setup, you discover that your computer no longer is able to boot, we should repair it

The best advice is to only alter settings which you thoroughly understand. To this end, we strongly recommend that you avoid making any changes to the CPU defaults and the chipset defaults. These defaults have been carefully chosen by both Insyde and your systems manufacturer to provide the absolute maximum performance and reliability. Even a seemingly small change to them has the potential for causing you to be repaired.

### **A Final Note About Setup**

The information in this chapter is subject to change without notice.

## Main

Once you enter the Award BIOS CMOS Setup Utility, the Main Menu will appear on the screen.

The Main Menu allows you to select from several setup functions and two exit choices. Use the arrow keys to select among the items and press <Enter> to accept and enter the sub-menu.

Note that a brief description of each highlighted selection appears at the bottom of the screen.

**Table 5.2. Main Menu (Display only)**

Phoenix – Award WorkstationBIOS CMOS Setup Utility	
<ul style="list-style-type: none"> <li>►Standard CMOS Features</li> <li>►Advanced BIOS Features</li> <li>►Advanced Chipset Features</li> <li>►Integrated Peripherals</li> <li>►Power Management Setup</li> <li>►PnP/PCI Configurations</li> <li>►PC Health Status</li> </ul>	<ul style="list-style-type: none"> <li>►Frequency/Voltage Control</li> <li>Load Fail-Safe Defaults</li> <li>Load Optimized Defaults</li> <li>Set Supervisor Password</li> <li>Set User Password</li> <li>Save &amp; Exit Setup</li> <li>Exit Without Saving</li> </ul>
Esc : Quit <span style="float: right;">↑ ↓ ← → : Select Item</span>	
F10 : Save & Exit Setup	

# Standard CMOS Features

“Standard CMOS Setup” choice allows you to record some basic hardware configurations in your computer system and set the system clock and error handling.

If the motherboard is already installed in a working system, you will not need to select this option. You will need to run the Standard CMOS option, however, if you change your system hardware configurations, the onboard battery fails, or the configuration stored in the CMOS memory was lost or damaged.

Table 5.3. Standard CMOS Features

Phoenix – Award WorkstationBIOS CMOS Setup Utility			
Standard CMOS Features			
Data(mm:dd:yy) Time(hh:mm:ss)		Fri , Aug 24 2012 00 : 00 : 00	Item Help
▶ IDE Channel 0 Master		[None]	
▶ IDE Channel 0 Slave		[None]	
▶ IDE Channel 2 Master		[None]	
▶ IDE Channel 2 Slave		[None]	
▶ IDE Channel 3 Master		[None]	
▶ IDE Channel 3 Slave		[None]	
Halt On		[No Errors]	
Base Memory		640K	
Extended Memory		1833984K	
Total Memory		1835008K	
↑ ↓ ↔ : Move Enter : Select +/-/PU/PD : Value F10 : Save ESC : Exit F1:General Help F5 : Previous Values F6 : Fail-Safe Defaults F7 : Optimized Defaults			
Item	Explanation		
Date	To set the date, highlight the “Date” field and use the PageUp / PageDown or +/- key to set the current time. The date format is: Day: Sun to Sat Month: 1 to 12 Date: 1 to 31 Year: 1999 to 2099		
Time	To set the time, highlight the “Time” field and use the <PgUp>/<PgDn> or +/- key to set the current time. The time format is: Hour: 00 to 23 Minute: 00 to 59 Second: 00 to 59		

IDE Channel Master/Slave	<p>The onboard PCI IDE connector provides Primary and Secondary channels for connecting up to two IDE hard disks or other IDE devices.</p> <p>Press &lt;Enter&gt; to configure the hard disk. The selections include Auto, Manual, and None. Select 'Manual' to define the drive information manually. You will be asked to enter the following items.</p> <p>CYLS: Number of cylinders  HEAD: Number of read/write heads  PRECOMP: Write precompensation  LANDING ZONE: Landing zone  SECTOR: Number of sectors</p>
Halt On	<p>This field determines whether or not the system will halt if an error is detected during power up.</p> <p>No errors:  The system boot will not be halted for any error that may be detected.</p> <p>All errors:  Whenever the BIOS detect a non-fatal error, the system will stop and you will be prompted.</p> <p>All, But Keyboard:  The system boot will not be halted for a keyboard error; it will stop for all other errors.</p> <p>All, But Diskette:  The system boot will not be halted for a disk error; it will stop for all other errors.</p> <p>All, But Disk/Key:  The system boot will not be halted for a key- board or disk error; it will stop for all others.</p>
Halt On	<p>This field determines whether or not the system will halt if an error is detected during power up.</p> <p>No errors:  The system boot will not be halted for any error that may be detected.</p> <p>All errors:  Whenever the BIOS detect a non-fatal error, the system will stop and you will be prompted.</p> <p>All, But Keyboard:  The system boot will not be halted for a keyboard error; it will stop for all other errors.</p> <p>All, But Diskette:  The system boot will not be halted for a disk error; it will stop for all other errors.</p> <p>All, But Disk/Key:  The system boot will not be halted for a key- board or disk error; it will stop for all others.</p>

# Advanced BIOS Features

Table 5.4. Advanced BIOS Features

Phoenix – Award WorkstationBIOS CMOS Setup Utility Advanced BIOS Features		
<div>▶ CPU Feature [Press Enter]</div> <div>▶ Hard Disk Boot Priority [Press Enter]</div> <div>Virus Warning [Disabled]</div> <div>CPU Internal Cache [Enabled]</div> <div>External Cache [Enabled]</div> <div>Quick Power On Self Test [Enabled]</div> <div>First Boot Device [Hard Disk]</div> <div>Second Boot Device [CDROM]</div> <div>Third Boot Device [LS120]</div> <div>Boot Other Device [Enabled]</div> <div>Boot Up NumLock Status [On]</div> <div>Gate A20 Option [Normal]</div> <div>Typematic Rate Setting [Disabled]</div> <div>x Typematic Rate (Chars/Sec) 6</div> <div>x Typematic Delay (Msec) 250</div> <div>Security Option [Setup]</div> <div>APIC Mode Enabled</div> <div>MPS Version Control For OS [1.4]</div> <div>OS Select For DRAM &gt; 64MB [Non-OS2]</div> <div>HDD S.M.A.R.T. Capability [Disabled]</div>		<div>Item Help</div>
↑ ↓ ← → : Move Enter : Select +/-PU/PD : Value F10 : Save ESC : Exit F1:General Help F5 : Previous Values F6 : Fail-Safe Defaults F7 : Optimized Defaults		
Item	Explanation	
CPU Feature	Press Enter to configure the settings relevant to CPU Feature.	
Hard Disk Boot Priority	With the field, there is the option to choose, aside from the hard disks connected, "Bootable add-in Cards" which refers to other external devices.	
Virus Warning	If this option is enabled, an alarm message will be displayed when trying to write on the boot sector or on the partition table on the disk, which is typical of the virus.	
CPU Internal and External Cache	Cache memory is additional memory that is faster than conventional DRAM (system memory). CPUs from 486-type on up contain internal cache memory, and most, but not all, modern PCs have additional (external) cache memory. When the CPU requests data, the system transfers the requested data from the main DRAM into cache memory, for even faster access by the CPU. These allow you to enable (speed up memory access) or disable the cache function.	
Quick Power On Self Test	When enabled, this field speeds up the Power On Self Test (POST) after the system is turned on. If it is set to Enabled, BIOS will skip some items.	
First/Second/Third Boot Device	These fields determine the drive that the system searches first for an operating system. The options available include Floppy, LS120, Hard Disk, CDROM, ZIP100, USB-Floppy, USB-ZIP, USB-CDROM, LAN and Disable.	
Boot Other Device	These fields allow the system to search for an OS from other devices other than the ones selected in the First/Second/Third Boot Device.	
Boot Up NumLock Status	This allows you to activate the NumLock function after you power up the system.	
Gate A20 Option	This field allows you to select how Gate A20 is worked. Gate A20 is a device used to address memory above 1 MB.	

Typematic Rate Setting	When disabled, continually holding down a key on your keyboard will generate only one instance. When enabled, you can set the two typematic controls listed next. By default, this field is set to Disabled.
Typematic Rate (Chars/Sec)	When the typematic rate is enabled, the system registers repeated keystrokes speeds. Settings are from 6 to 30 characters per second.
Typematic Delay (Msec)	When the typematic rate is enabled, this item allows you to set the time interval for displaying the first and second characters. By default, this item is set to 250msec.
Security Option	This field allows you to limit access to the System and Setup. The default value is Setup. When you select System, the system prompts for the User Password every time you boot up. When you select Setup, the system always boots up and prompts for the Supervisor Password only when the Setup utility is called up.
APIC Mode	APIC stands for Advanced Programmable Interrupt Controller. The default setting is Enabled.
MPS Version Control for OS	This option is specifies the MPS (Multiprocessor Specification) version for your operating system. MPS version 1.4 added extended configuration tables to improve support for multiple PCI bus configurations and improve future expandability. The default setting is 1.4.
OS Select for DRAM > 64MB	This option allows the system to access greater than 64MB of DRAM memory when used with OS/2 that depends on certain BIOS calls to access memory. The default setting is Non-OS/2.
HDD S.M.A.R.T. Capability	By default, this field is disabled.



# Advanced Chipset Features

This Setup menu controls the configuration of the chipset.

Table 5.5. Advanced Chipset Features

Phoenix – Award WorkstationBIOS CMOS Setup Utility Advanced Chipset Features		
<div>▶ PCIE Configuration [Press Enter] ▶ IGX Configuration [Press Enter] Init Display First [IGX] NB Power Management [Auto] Memory Hole [Disabled] System BIOS Cacheable [Disabled]</div>		<div>Item Help</div>
<div>↑ ↓ ↔ : Move Enter : Select +/-/PU/PD : Value F10 : Save ESC : Exit F1:General Help F5 : Previous Values F6 : Fail-Safe Defaults F7 : Optimized Defaults</div>		

Item	Explanation
Init Display First	The default setting is IGX.
NB Power Management	The default setting is Auto.
Memory Hole At 15M-16M	In order to improve performance, certain space in memory can be reserved for ISA cards.This memory must be mapped into the memory space below 16 MB. The choices are Enabled and Disabled.
System BIOS Cacheable	The setting of Enabled allows caching of the system BIOS ROM at F0000h-FFFFFh, resulting in better system performance. However, if any program writes to this memory area, a system error may result.

## PCIE Configuration

**Table 5.6. PCIE Configuration**

Phoenix – Award WorkstationBIOS CMOS Setup Utility  
PCIE Configuration

Primary Dual Slot Config	[Enabled]	Item Help
GPP Slots Power Limit , W	[25]	
▶ GFX Port 1	[Press Enter]	
▶ GFX Port 2	[Press Enter]	
▶ GPP1	[Press Enter]	
▶ GPP2	[Press Enter]	
▶ GPP3	[Press Enter]	
▶ GPP4	[Press Enter]	
▶ GPP5	[Press Enter]	
▶ GPP6	[Press Enter]	
▶ NB-SB Port Features	[Press Enter]	

↑ ↓ ↔ : Move Enter : Select +/-PU/PD : Value F10 : Save ESC : Exit F1:General Help  
F5 : Previous Values F6 : Fail-Safe Defaults F7 : Optimized Defaults

# IGX Configuration

Table 5.7. IGX Configuration

Phoenix – Award WorkstationBIOS CMOS Setup Utility		
IGX Configuration		
Internal Graphics Mode	[UMA+SidePort]	Item Help
UMA Frame Buffer Size	[Auto]	
IGX Engine Clock Override	[Disabled]	
x IGX Engine Clock	500	
NB Azalia	[Enabled]	
↑ ↓ ← → : Move Enter : Select +/-/PU/PD : Value F10 : Save ESC : Exit F1:General Help F5 : Previous Values F6 : Fail-Safe Defaults F7 : Optimized Defaults		
Item	Explanation	
Internal Graphics Mode	The settings for IB828 are Disabled and UMA; while the IB828 has additional settings of Sideport and UMA+sideport.	

## Integrated Peripherals

This section sets configurations for your hard disk and other integrated peripherals.

The first screen shows three main items for user to select. Once an item selected, a submenu appears.

Details follow.

**Table 5.8. Integrated Peripherals**

Phoenix – Award WorkstationBIOS CMOS Setup Utility Integrated Peripherals		
CIMx-SB700 Revision 4.7.0 ▶ Onboard Devices [Press Enter] ▶ OnChip SATA Device [Press Enter] ▶ OnChip Azalia Device [Press Enter] Onboard Serial Port 1 [3F8/IRQ4] Onboard Serial Port 2 [2F8/IRQ3] PWRON After PWR-Fail [On] ▶ USB Device Setting [Press Enter]		Item Help
↑ ↓ ← → : Move Enter : Select +/-PU/PD : Value F10 : Save ESC : Exit F1:General Help F5 : Previous Values F6 : Fail-Safe Defaults F7 : Optimized Defaults		
Item	Explanation	
Onboard Serial Port	These fields allow you to select the onboard serial ports and their addresses. The default values for these ports are: Serial Port 1: 3F8/IRQ4 Serial Port 2: 2F8/IRQ3	
PWRON After PWR-Fail	This field sets the system power status whether on or off when power returns to the system from a power failure situation.	

# Onboard Devices

Table 5.9. Onboard Devices

Phoenix – Award WorkstationBIOS CMOS Setup Utility		
Onboard Devices		
Onboard Realtek NIC	[Enabled]	Item Help
Onboard Lan Boot ROM	[Disabled]	

## OnChip SATA Device

**Table 5.10. OnChip SATA Device**

Phoenix – Award Workstation BIOS CMOS Setup Utility		
OnChip SATA Device		
OnChip SATA Channel	[Enabled]	Item Help
OnChip SATA Type	[IDE]	
Combined Mode	[Disabled]	
↑ ↓ ← → : Move Enter : Select +/-PU/PD : Value F10 : Save ESC : Exit F1:General Help F5 : Previous Values F6 : Fail-Safe Defaults F7 : Optimized Defaults		

# OnChip Azalia Device

Table 5.11. OnChip Azalia Device

Phoenix – Award WorkstationBIOS CMOS Setup Utility		
OnChip Azalia Device		
HD Audio Azalia	[Enabled]	Item Help
↑ ↓ ← → : Move Enter : Select +/-/PU/PD : Value F10 : Save ESC : Exit F1:General Help F5 : Previous Values F6 : Fail-Safe Defaults F7 : Optimized Defaults		

# USB Device setting

**Table 5.12. USB Device setting**

Phoenix – Award WorkstationBIOS CMOS Setup Utility		
USB Device Setting		
USB 1.0 Controller	[Enabled]	Item Help
USB 2.0 Controller	[Enabled]	
USB Keyboard Function	[Enabled]	
USB Mouse Function	[Enabled]	
USB Storage Function	[Enabled]	
*** USB Mass Storage Device Boot Setting ***		

↑ ↓ ← → : Move Enter : Select +/-PU/PD : Value F10 : Save ESC : Exit F1:General Help  
F5 : Previous Values F6 : Fail-Safe Defaults F7 : Optimized Defaults



# Power Management Setup

Table 5.13. Power Management Setup

Phoenix – Award WorkstationBIOS CMOS Setup Utility			
Power Management Setup			
ACPI function		[Enabled]	Item Help
ACPI Suspend Type		[S1(POS)]	
C2 Disable/Enable		[Disabled]	
Power Management Option		[User Define]	
HDD Power Down		[Disabled]	
Video Off Option		[Suspend -> Off]	
Video Off Method		[V/H SYNC+Blank]	
Soft-Off by PWRBTN		[Instant-Off]	
PowerOn by PCIE Card		[Disabled]	
ACPI XSDT Table		[Enabled]	
HPET Support		[Enabled]	
RTC Alarm Resume		[Disabled]	
x Date (of Month)		0	
x Resume Time (hh:mm:ss)		0 : 0 : 0	
↑ ↓ ↔ : Move Enter : Select +/-PU/PD : Value F10 : Save ESC : Exit F1:General Help F5 : Previous Values F6 : Fail-Safe Defaults F7 : Optimized Defaults			
Item	Explanation		
ACPI Suspend Type	The default setting of the ACPI Suspend mode is S1(POS).		
C2 Disable/Enable	The default setting of this field is Disabled.		
Power Management Option	This field allows you to select the type of power saving management modes. There are four selections for Power Management. Min. Power Saving: Minimum power management Max. Power Saving: Maximum power management. User Define: Each of the ranges is from 1 min. to 1hr. Except for HDD Power Down which ranges from 1 min. to 15 min.		
HDD Power Down	When enabled, and after the set time of system inactivity, the hard disk drive will be powered down while all other devices remain active.		
Video Off Option	This field sets the video off option. By default, video goes into suspend state and then Off.		
Video Off Method	This field defines the Video Off features. There are three options. V/H SYNC + Blank: Default setting, blank the screen and turn off vertical and horizontal scanning. DPMS: Allows BIOS to control the video display. Blank Screen: Writes blanks to the video buffer.		
Soft-Off by PWRBTN	This field defines the power-off mode when using an ATX power supply. The Instant Off mode allows powering off immediately upon pressing the power button. In the By Hardware mode, the system powers off when the power button is pressed for more than four seconds or enters the suspend mode when pressed for less than 4 seconds.		
HPET Support	HPET, or High Precision Event Timer (formerly known as Multimedia Timer) is a hardware timer that is supported under Linux and Windows Vista. It can produce periodic interrupts at a much higher resolution than the RTC and is often used to synchronize multimedia streams, providing smooth playback and reducing the need to use other timestamp calculations such as an x86 CPU's RDTSC instruction.		

## PNP/PCI Configurations

This option configures the PCI bus system. All PCI bus systems on the system use INT#, thus all installed PCI cards must be set to this value.

**Table 5.14. PNP/PCI Configurations**

Phoenix – Award WorkstationBIOS CMOS Setup Utility PnP/PCI Configurations		
Reset Configuration Data	[Disabled]	Item Help
Resources Controlled By x IRQ Resources	[Auto(ESCD)] Press Enter	
PCI/VGA Palette Snoop	[Disabled]	
Assign IRQ For VGA	[Enabled]	
Assign IRQ For USB	[Enabled]	
PCI Latency Timer(CLK)	[64]	
** PCI Express relative items **		
Maximum Payload Size	[4096]	
↑ ↓ ← → : Move Enter : Select +/-PU/PD : Value F10 : Save ESC : Exit F1:General Help F5 : Previous Values F6 : Fail-Safe Defaults F7 : Optimized Defaults		
Item	Explanation	
Reset Configuration Data	This field allows you to determine whether to reset the configuration data or not. The default value is Disabled.	
Resources Controlled by	This PnP BIOS can configure all of the boot and compatible devices with the use of a PnP operating system such as Windows 95.	
PCI/VGA Palette Snoop	Some non-standard VGA display cards may not show colors properly. This field allows you to set whether or not MPEG ISA/VESA VGA cards can work with PCI/VGA. When this field is enabled, a PCI/VGA can work with an MPEG ISA/VESA VGA card. When this field is disabled, a PCI/VGA cannot work with an MPEG ISA/VESA card.	
Assign IRQ for VGA/USB	The default value is Enabled	
PCI Latency	PCI latency refers to the number of cycles that any device can hold an IRQ before it is disconnected.	
Maximum Payload Size	The default setting of the PCI Express Maximum Payload Size is 4096.	

# PC Health Status

This section shows the parameters in determining the PC Health Status. These parameters include temperatures, fan speeds and voltages.

Table 5.15. PC Health Status

Phoenix – Award WorkstationBIOS CMOS Setup Utility			
PC Health Status			
Shutdown Temperature		[Disabled]	Item Help
CPU Warnig Temperature		[Disabled]	
Current System Temp		00° C/ 000° F	
Current CPU Temperature		00° C/ 000° F	
Current GPU Temperature		00° C/ 000° F	
SYS_Fan Speed		0000 RPM	
CPU_Fan Speed		0000 RPM	
Vcore		00.00V	
12V		00.00V	
1.8V		00.00V	
5V		00.00V	
3.3V		00.00V	
VBAT (V)		00.00V	
3VSB (V)		00.00V	
SYS_DC Fan Temperature		[70° C/158° F]	
SYS_Fan Tolerance Va		[5]	
CPU_DC Fan Temperature		[70° C/158° F]	
CPU_Fan Tolerance Va		[5]	
↑ ↓ ↔ : Move Enter : Select +/-PU/PD : Value F10 : Save ESC : Exit F1:General Help F5 : Previous Values F6 : Fail-Safe Defaults F7 : Optimized Defaults			
Item	Explanation		
Shutdown Temperature	This field allows the user to set the temperature by which the system automatically shuts down once the threshold temperature is reached. This function can help prevent damage to the system that is caused by overheating.		
CPU Warning Temperature	This field allows the user to set the temperature so that when the temperature is reached, the system sounds a warning. This function can help prevent damage to the system that is caused by overheating.		
Temperatures/Voltages	These fields are the parameters of the hardware monitoring function feature of the board. The values are read-only values as monitored by the system and show the PC health status.		
Smart Fan Temperature	This field enables or disables the smart fan feature. At a certain temperature, the fan starts turning. Once the temperature drops to a certain level, it's turn low speed.		

# Frequency/Voltage Control

This section shows the user how to configure the processor frequency.

**Table 5.16. Frequency/Voltage Control**

Phoenix – Award WorkstationBIOS CMOS Setup Utility Frequency/Voltage Control	
Spread Spectrum	[Disabled]
	Item Help
↑ ↓ ← → : Move Enter : Select +/-PU/PD : Value F10 : Save ESC : Exit F1:General Help F5 : Previous Values F6 : Fail-Safe Defaults F7 : Optimized Defaults	
Item	Explanation
Spread Spectrum	This field sets the value of the spread spectrum. The default setting is Disabled. This field is for CE testing use only.

## Defaults Menu

Selecting “Defaults” from the main menu shows you two options which are described below

### **Load Fail-Safe Defaults**

When you press <Enter> on this item you get a confirmation dialog box with a message similar to:

***Load Fail-Safe Defaults (Y/N) ? N***

Pressing ‘Y’ loads the BIOS default values for the most stable, minimal-performance system operations.

### **Load Optimized Defaults**

When you press <Enter> on this item you get a confirmation dialog box with a message similar to:

***Load setup Defaults (Y/N) ? N***

Pressing ‘Y’ loads the default values that are factory settings for optimal performance system operations.

## Supervisor /User Password Setting

You can set either supervisor or user password, or both of them. The differences between are:

**SUPERVISOR PASSWORD:** can enter and change the options of the setup menus.

**USER PASSWORD:** just can only enter but do not have the right to change the options of the setup menus. When you select this unction, the following message will appear at the center of the screen to assist you in creating a password.

### **ENTER PASSWORD:**

Type the password, up to eight characters in length, and press <Enter>. The password typed now will clear any previously entered password from CMOS memory. You will be asked to confirm the password. Type the password again and press <Enter>. You may also press <Esc> to abort the selection and not enter a password.

To disable a password, just press <Enter> when you are prompted to enter the password. A message will confirm the password will be disabled. Once the password is disabled, the system will boot and you can enter Setup freely.

### **PASSWORD DISABLED:**

When a password has been enabled, you will be prompted to enter it every time you try to enter Setup. This prevents an unauthorized person from changing any part of your system configuration.

Additionally, when a password is enabled, you can also require the BIOS to request a password every time your system is rebooted. This would prevent unauthorized use of your computer.

You determine when the password is required within the BIOS Features Setup Menu and its Security option. If the Security option is set to "System", the password will be required both at boot and at entry to Setup. If set to "Setup", prompting only occurs when trying to enter Setup.

## Exit Selecting

### Save & Exit Setup

**Pressing <Enter> on this item asks for confirmation :**

*Save to CMOS and EXIT (Y/N)? Y*

Pressing “Y” stores the selections made in the menus in CMOS – a special section of memory that stays on after you turn your system off. The next time you boot your computer, the BIOS configures your system according to the Setup selections stored in CMOS. After saving the values the system is restarted again.

### Exit Without Saving

**Pressing <Enter> on this item asks for confirmation:**

*Quit without saving (Y/N)? Y*

This allows you to exit Setup without storing in CMOS any change. The previous selections remain in effect. This exits the Setup utility and restarts your computer.

## 6. Appendix

### Battery

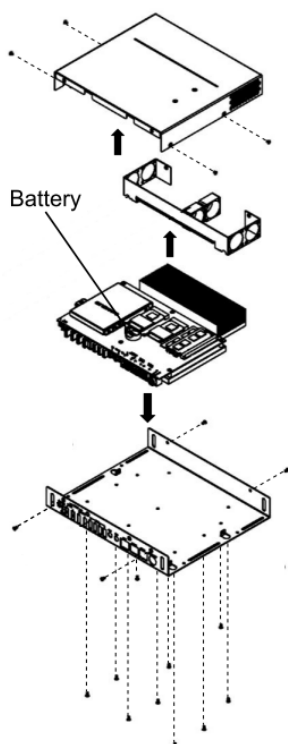
#### Battery Specification

This product uses the following battery.

- Type : Lithium primary battery
- Model : BR2032
- Maker : Panasonic
- Nominal voltage : 3V
- Nominal capacity : 200mAh
- Lithium content : 1g or less

#### Removing the battery

Remove the battery according to the following figure.



**Figure 6.1. Removing the battery**

#### Disposing the battery

Dispose the removed battery properly as instructed by local government.





## 7. List of Options

Display cable only for HDMI input

- IPC-HDMI-015                      HDMI Cable (1.5m)

\* Please check our website in order to know the latest information about our options.

# DS-280H Series

## User's Manual

DS-280H-DCxxxx

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Management No. NA02209

Parts No. LYPQ381